

Changing Climates Part II: Brazil

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CASS: Briefings

CASS

Corpus Approaches
to Social Science

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About CASS...

The ESRC funded Centre for Corpus Approaches to Social Science (CASS) is a research centre based at Lancaster University which aims to bring the methods and benefits of the corpus approach to other disciplines.

From the Centre Director

The corpus approach harnesses the power of computers to allow analysts to work to produce machine aided analyses of large bodies of language data - so-called *corpora*. Computers allow us to do this on a scale and with a depth that would typically defy analysis by hand and eye alone.

In doing so, we gain unprecedented insights into the use and manipulation of language in society. The centre's work is generating such insights into a range of important social issues like climate change, hate crime and education. This series of briefings aims to spread the social impact and benefits of the work being done by the centre and, in so doing, encourage others to use our methods in future.

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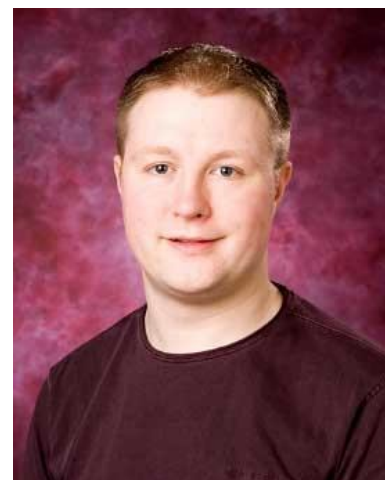
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Dr Andrew Hardie

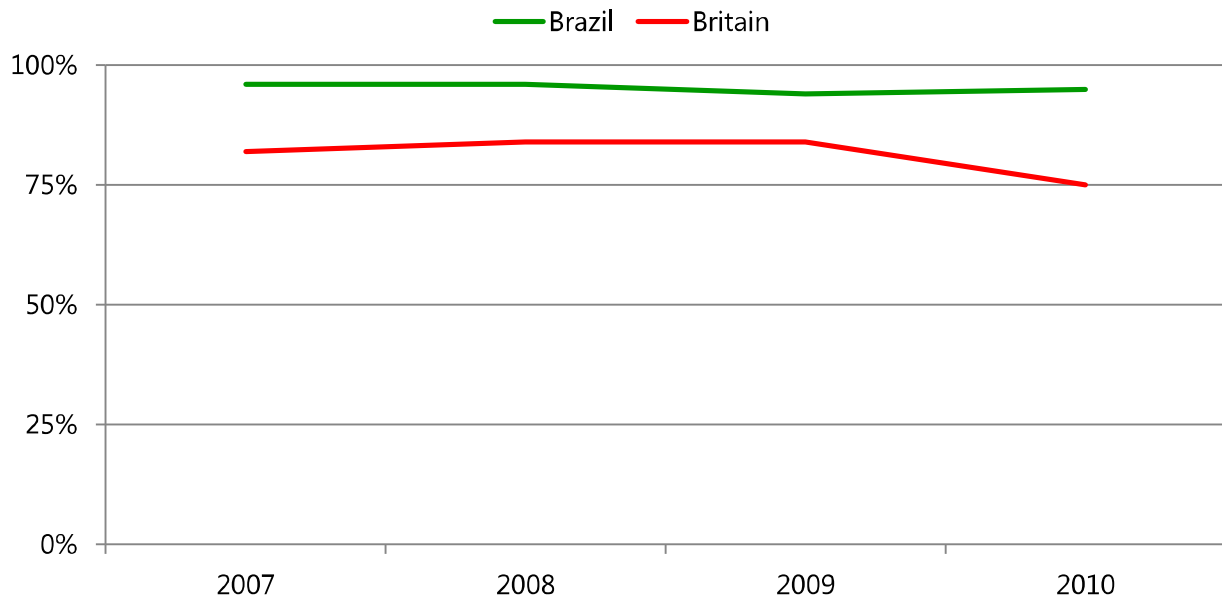
Although climate change has reached a broad scientific consensus with respect to its impacts and the urgent need to take actions, global cooperation for its solution has not yet been achieved. There are still those who remain sceptical and challenge the scientific treatment of climate change, or at least part of it. As a result, societies worldwide differ in their level of concern and governments have taken different positions and pursued different policies.

This research project seeks to contrast the debate around climate change issues in Britain and Brazil. These are among the largest economies in the world and are also major emitters of greenhouse gases. At the same time, they have both adopted significant measures to curb emissions and are major players in international debates on global warming, but differ in relation to key points.

Why Brazil?

Survey evidence shows that Brazilians are the most concerned about climate change while climate scepticism is almost non-existent.

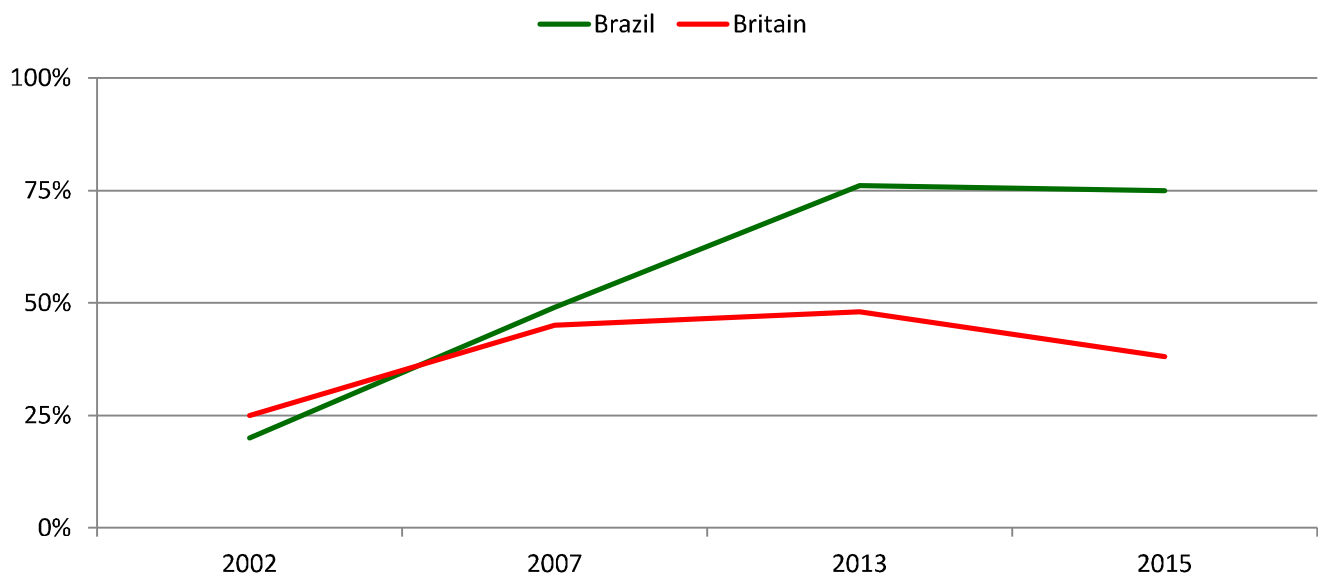
Percentage of people who considered global warming a (very) serious problem



Source: PEW (2009, 2010)

Brazilians list climate change as more threatening than international financial instability, US power and influence, North Korea's nuclear program, Iran's nuclear program or Islamic extremist groups.

Percentage of people who regard climate change as a major global threat



Source: PEW (2007, 2013, 2015)

About Brazil

- A major emerging economy;
- The 6th largest emitter of greenhouse gases (GHGs) in the world;

At the same time ...

- It houses most of the Amazon rain forest.
- CO2 emissions from fuel combustion are low by global standards: only 1.3% of global total
- 80% of total electricity generated from renewable sources
- Widespread use of biofuels, especially ethanol

Brazil's greenhouse gas emissions mainly result from agriculture, land-use and deforestation

Brazilian Biomes -  indicates deforested areas



Source: IBGE

To examine how climate change issues have been framed in Brazilian newspapers between 2003 and 2013.

We seek to answer the following questions:

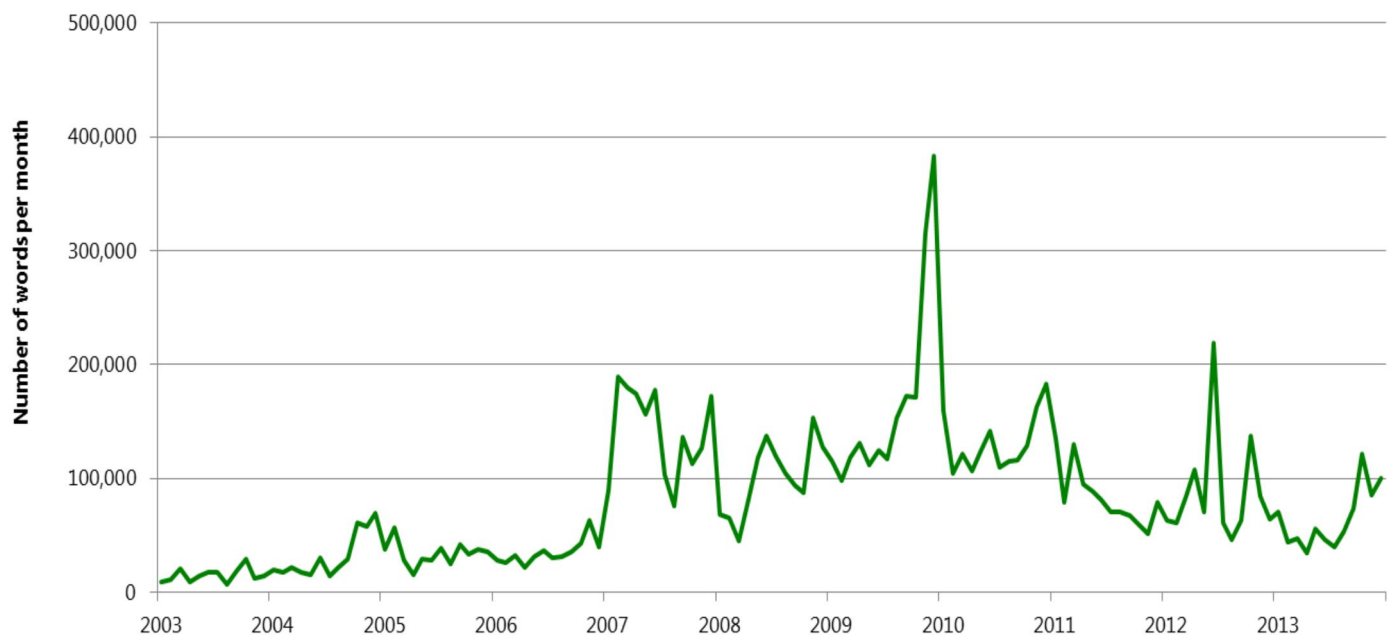
- 1. What concerns are revealed in the media debate?**
- 2. How does the press conceptualise the causes of climate change and ways to mitigate it?**
- 3. To what the extent and in what ways are solutions discussed?**

Data

Our corpus consists of 19,686 texts (11.4 million words) making reference to climate change, published between 01/01/2003 and 31/12/2013 by the following newspapers:

1.	Folha de São Paulo	7.	Pioneiro
2.	O Globo	8.	Jornal da Tarde
3.	Estado de São Paulo	9.	Estado de Minas
4.	Gazeta do Povo	10.	Correio Braziliense
5.	Zero Hora	11.	Diário de Pernambuco
6.	Diário Catarinense	12.	Correio

The graph below shows the number of words per month across the entire period under analysis.



Findings

Little evidence of climate change scepticism

There is hardly any reference to sceptical institutions, agreements, or public figures.

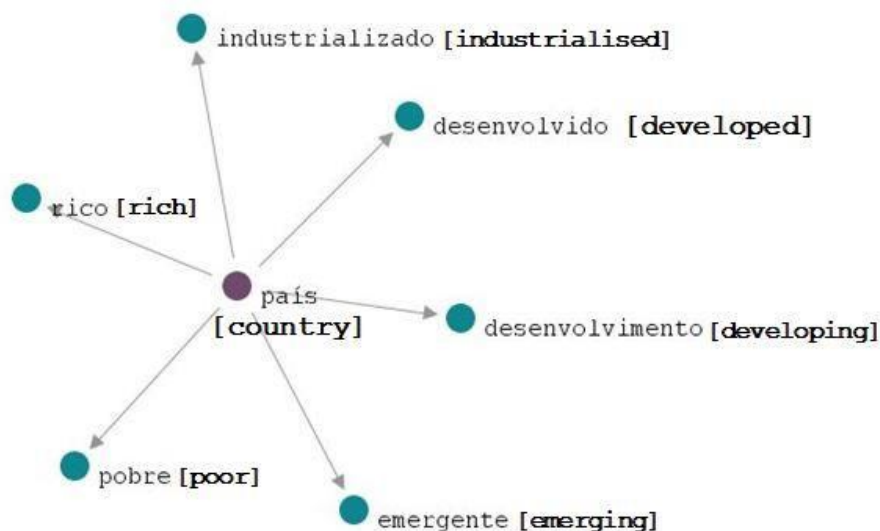
Climate sceptical organisations	Number of hits
American Enterprise Institute (AEI)	25
Cato Institute	21
Copenhagen Consensus Centre (CCC)	17
Heartland Institute	15
The Heritage Foundation	11
Nongovernmental International Panel on Climate Change (NIPCC) ^a	6
Competitive Enterprise Institute	5
Americans for Prosperity	4
Energy for America, Global Climate Coalition, <i>Liberdade</i> Institute, Marshall Institute, Science and Environment Policy Project (SEPP), Science and Public Policy Institute (SPPI), World Climate Council	No hits

Brazilian newspapers consistently mention organizations and documents that advocate the view that climate change is a major global threat

Gradualism	Frequency
Kyoto Protocol	3,856
Intergovernmental Panel on Climate Change (IPCC)	3,415
Greenpeace	1,162
United Nations Framework Convention on Climate Change (UNFCCC)	924
WWF	771
Brazilian Forum on Climate Change	196
Stern Review	126
Brazilian Panel on Climate Change	50

Climate change requires global action

The tension between the positions adopted by developed and developing nations regarding responsibilities and actions to tackle climate change issues is made evident.



Developed nations are responsible for a larger amount of greenhouse gases in the atmosphere

... sendo os maiores emissores de gases poluentes desde a Revolução Industrial, ... os países desenvolvidos têm mais responsabilidade no combate ao problema do que os países em desenvolvimento. (O Globo 23/08/2009)

[... as major emitters of greenhouse gases since the Industrial Revolution, ... developed countries bear more responsibility than developing countries for tackling the problem.]

Emissions from developing nations have increased

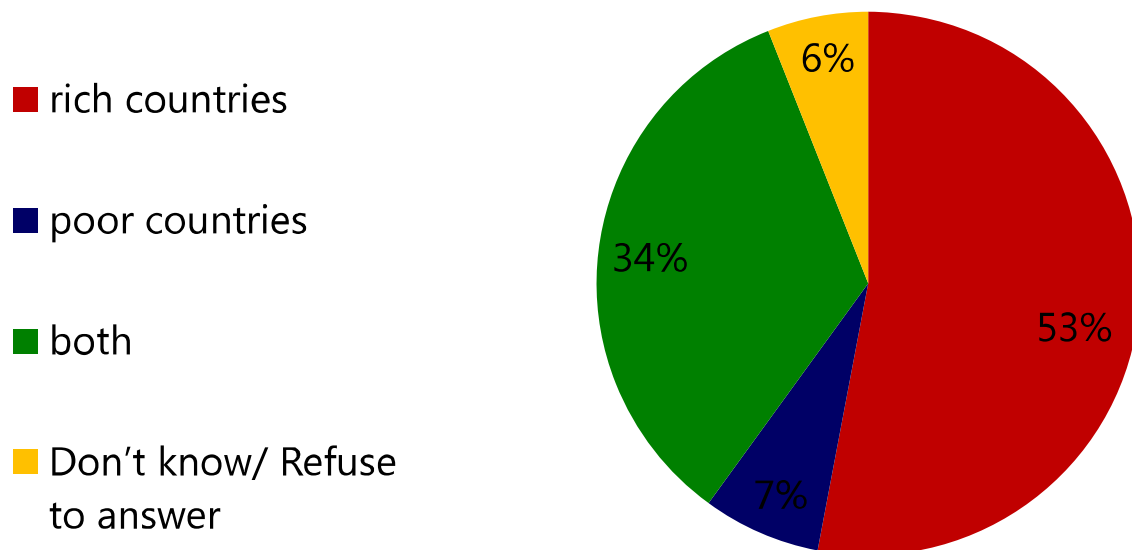
Developed nations have the responsibility to help developing and poor countries to tackle the problem as climate change requires global action.

O fato é que, hoje, 50% das emissões se originam em países em desenvolvimento. Mesmo que os países industrializados reduzissem a zero suas emissões, o problema não seria resolvido. (Estado de São Paulo 20/04/2009)

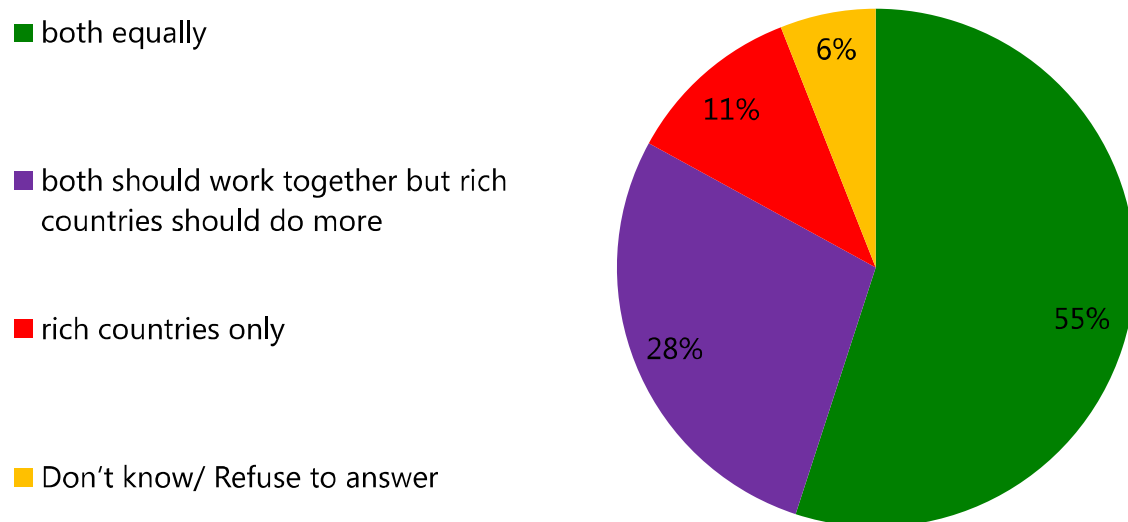
[The point is that, today, 50% of all emissions come from developing countries. Even if industrialized countries reduce their emissions to zero, the problem would not be solved.]

Brazilians' view on responsibilities and actions

Who to blame for climate change?



Which countries should take action to tackle climate change?



Source: CNI-IBOPE (2012)

Conclusion

In Brazil, much media and popular debate is organised explicitly or implicitly around how to deal with the 'reality' of climate change. The press has played a key role in increasing the level of concern about the problem.

Brazilians' striking level of concern about climate change has put pressure on the government to take action – Brazilians are overwhelmingly supportive of what are believed to be effective climate change policies.

Notes

Part of our aim at CASS is to make Corpus Linguistics accessible, which is why we have created our **free online FutureLearn course**. With the course, we aim to demonstrate that corpus approaches can offer researchers from all disciplines unique, valuable insights into the use and manipulation of language in society. We provide all you need to start 'doing' Corpus Linguistics yourself.

This briefing should act as an introduction and companion to the course where you will begin to apply the concepts and methods mentioned here in a practical way relevant to your field of interest.

The course is free, can be done from home, and comes with a whole range of content and support from world-leading scholars in the field of Corpus Linguistics. For more, visit:

futurelearn.com/courses/corpus-linguistics

For more about CASS and our freely available resources, please visit: **cass.lancs.ac.uk**



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CASS: Briefings is a series of short, quick reads on the work being done at the ESRC/CASS research centre at Lancaster University, UK. Commissioning work from internationally recognised academics in the field of Corpus Linguistics, *CASS: Briefings* set out to make cutting edge research easily accessible, providing a good introduction to the variety of vital and exciting research going on in the area of Corpus Linguistics.

